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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/790,247

03/02/2004

Kiyoshi Yoneda

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02/02/2006

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EXAMINER

HINES, ANNE M

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/790,247	YONEDA, KIYOSHI	
	Examiner	Art Unit	
	Anne M. Hines	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/2/04, 1/4/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because it is longer than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claim 7 is objected to because of the following informalities: On page 12, line 21 the word "rend" appears. This appears to be a typographical error. The Examiner has treated the claim on its merits assuming that the word is "red" instead of "rend." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Liao et al. (US 6,872,472).

Regarding claim 1, Liao discloses a plurality of pixels (Column 8, lines 45-58); an anode layer provided for each of the pixels (Fig. 7, 210; Column 9, line 7); an

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electroluminescent layer provided for each of the pixels and disposed above a corresponding anode layer (Fig. 7, 220.1 & 22.2 & 220.3; Column 8, lines 11-13), the electroluminescent layer comprising a first emissive layer of a first wavelength (Fig. 7, 220.1; Column 8, lines 11-13) and a second emissive layer of a second wavelength that is longer than the first wavelength (Fig. 7, 220.3; Column 8, lines 11-13), and the first emissive layer being disposed closer to the anode layer than the second emissive layer (Fig. 7, 220.1 & 220.3); and a cathode layer disposed above the electroluminescent layers (Fig. 7, 240; Column 8, line 10).

Regarding claim 2, Liao further discloses a color filter layer disposed so that light emitted from the electroluminescent layer passes through the color filter layer (Fig. 9, 651 & 652 & 653; Column 9, line 63 to Column 10, line 37).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liao et al. (US 6,872,472) in view of Hamada et al. (US 6,936,962).

Regarding claims 3 and 4, Liao teaches an insulating substrate (Fig. 7, 201; Column 9, lines 7-8); a plurality of pixels disposed on the insulating substrate (Column 8, lines 45-58); a color filter layer provided for each of the pixels (Fig. 9, 651 & 652 &

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653; Column 9, line 63 to Column 10, line 37); an anode layer made of a transparent electrode, provided for each of the pixels and disposed above a corresponding color filter layer (Fig. 7, 210; Column 9, line 7; Column 23, lines 28-29); an electroluminescent layer provided for each of the pixels and disposed above a corresponding anode layer (Fig. 7, 220.1 & 22.2 & 220.3; Column 8, lines 11-13), the electroluminescent layer comprising a plurality of emissive layers each emitting light of a different wavelength (Fig. 7, 220.1 & 22.2 & 220.3; Column 8, lines 11-13), the emissive layers being disposed so that an emissive layer emitting light of a shorter wavelength is disposed closer to the anode layer than an emissive layer emitting light of a longer wavelength (Fig. 7, 220.1); and a cathode layer disposed above the electroluminescent layers (Fig. 7, 240; Column 8, line 10). Liao fails to teach wherein the color filter layer is disposed above the substrate. In the same field of endeavor, Hamada teaches wherein the color filter layer is disposed above the substrate (Fig. 1, 9a & 9b & 9c; Column 6, line 20) in order to have the filter above the TFT (Fig. 1; Column 5, line 53 to Column 6, line 23). Therefore, it would have been obvious to one of ordinary skill in the art to modify the invention of Liao to have the color filter layer above the substrate in order to have the filter above the TFT, as disclosed by Liao.

Regarding claim 7, Liao further discloses wherein the plurality of the emissive layers comprises a blue emissive layer, a green emissive layer, and a red emissive layer, and the blue emissive layer is disposed on an anode side, the red emissive layer is disposed on a cathode side, and the green emissive layer is disposed between the blue and red emissive layers (Fig. 7; Column 9, lines 5-13).

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Regarding claim 8, Liao further discloses wherein the plurality of emissive layers comprises a blue emissive layer and a red emissive layer, and the blue emissive layer is disposed closer to the anode layer than the red emissive layer (Fig. 7; Column 9, lines 5-13).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liao et al. (US 6,872,472) and Hamada et al. (US 6,936,962) in view of Hatwar (US 6,696,177).

Regarding claim 5, Liao and Hamada teach the invention of claim 3, but fail to teach wherein the plurality of the emissive layers comprises a blue emissive layer and a yellow emissive layer, and the blue emissive layer is disposed closer to the anode layer than the yellow emissive layer. Hatwar teaches wherein the plurality of the emissive layers comprises a blue emissive layer and a yellow emissive layer, and the blue emissive layer is disposed closer to the anode layer than the yellow emissive layer in order to provide a white light emitting OLED (Fig. 6; Column 11, line 57 to Column 12, line 19). Therefore, it would have been obvious to modify the invention of Liao and Hamada to have the emissive layer structure of Hatwar in order to provide a white light emitting OLED, as disclosed by Hatwar.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liao et al. (US 6,872,472) and Hamada et al. (US 6,936,962) in view of Suzuki et al. (US 6,447,934).

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Regarding claim 6, Liao and Hamada teach the invention of claim 3, but fail to teach wherein the plurality of the emissive layers comprises a blue emissive layer and an orange emissive layer, and the blue emissive layer is disposed closer to the anode layer than the orange emissive layer. Suzuki teaches wherein the plurality of the emissive layers comprises a blue emissive layer and an orange emissive layer, and the blue emissive layer is disposed closer to the anode layer than the orange emissive layer (Fig. 1; Column 5, lines 35-54; Column 6, lines 1-16) in order to provide a white light emitting OLED (Column 4, lines 38-45). Therefore, it would have been obvious to modify the invention of Liao and Hamada to have the emissive layer structure of Suzuki in order to provide a white light emitting OLED, as disclosed by Suzuki.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne M. Hines whose telephone number is (571) 272-2285. The examiner can normally be reached on Monday through Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anne M Hines
Patent Examiner
Art Unit 2879

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PRIMARY EXAMINER